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Prescription Opioid Use and the Risk of Disability

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Dear Dr Turk

We would like to address some of the issues raised in the recent systematic review, “Early prescription opioid use for musculoskeletal disorders and work outcomes: A systematic review of the literature” by Carnide et al.¹

There are three aspects of our study² that deserve special comment. First, our study is referred to as an historical (e.g., retrospective) cohort study. In fact, this study was a prospective cohort study. This study was one of the largest prospective studies ever conducted on risk factors related to long term disability following a work-related low back injury, and according to the American Academy of Neurology Classification of Evidence method, would be considered class 1 evidence for prognostic (risk factor) studies.³ There are no RCTs addressing the question of long-term effects of early opioid prescribing after work injury and there are unlikely to be such RCTs. Thus, large, prospective cohort studies provide the strongest available evidence.

Second, our study included patient-reported measures obtained at baseline (including pain, function, recovery expectations, and fear avoidance), which are strong predictors of transition to chronic pain following a low back injury.^{4,5} The ability to control for these important covariates is a key methodological issue in assessing association of early opioid receipt with subsequent disability. In our study, the impact of adjusting for these important baseline factors was substantial; unadjusted risks for disability were 2-3 fold higher.² A similar effect of adjusting for baseline patient self-reported measures was also observed in another prospective study.⁶ Because our study included interviews to collect patient-reported measures, Carnide et al¹ conclude that the resulting 50% response rate may have led to selection bias. There is a tradeoff between only using administrative data which has limited

data available for all subjects, but does not have any self-reported information, versus conducting patient interviews which include self-reported measures, but not all patients participate. We believe it is critical to adjust for pain, function, and key psychosocial risk factors when examining the association between early opioid use and work disability.

Third, we adjusted for injury severity based on a review of medical records rather than relying solely on administrative claims data. The injury severity rating was completed by independent reviewers and was not dependent on patients providing information.

Carnide et al. classified the exposure measurement of 4 of the 5 studies reviewed as having high risk for exposure measurement bias because workers may have had opioid prescriptions that were not captured by the workers' compensation data (e.g., paid by another insurer or self-paid). In an unpublished study of injured workers using Washington Prescription Drug Program data, only 3% of workers with new workers' compensation claims had an opioid prescription in the 3 months prior to the injury and only 1.5% had evidence of chronic prescription opioid use prior to the injury. While we agree that the workers' compensation system may not capture all opioid prescriptions, because such a low percentage of workers with new WA workers' compensation claims have recent prescription opioid use prior to injury, we believe that there was low or moderate risk rather than high risk of exposure measurement bias in our study.

Both the 2016 CDC opioid guideline⁷ and the 2015 Washington State opioid guideline⁸ have recognized the importance of avoiding unnecessary or ineffective opioid use during the acute/subacute pain periods. The Centers for Disease Control and Prevention recommend limits for acute prescribing to no more than 3 days in most cases, and no more than seven days by exception.⁷ Ultimate proof of concept, however, should demonstrate that reducing unnecessary opioid prescribing for injured workers during the acute/subacute pain periods reduces risk of long term disability and improves health outcomes.

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